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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,501	07/25/2003	Heinz Zoch	032301.341	3242
25461	7590	01/26/2005	EXAMINER	
SMITH, GAMBRELL & RUSSELL, LLP SUITE 3100, PROMENADE II 1230 PEACHTREE STREET, N.E. ATLANTA, GA 30309-3592			HUANG, MEI QI	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/627,501	Applicant(s) ZOCH ET AL.	
	Examiner Mei Q. Huang	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003 and 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 11, in Table 4, the surface tension [mN/m] of the Gas black suspension 2 according to the invention is out of the claimed range described in Claims 1, 5, 12 and 15 and inconsistent with the one in Table 3, page 9. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4-12, 15, and 18-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kijlstra et al. (US Pat. 5,969,002).

The prior art to Kijlstra et al. discloses pigment preparations comprising a) 0.1 to 70% by weight of pigment, b) 10 to 99% by weight of water, c) 0.1 to 100% by weight, based on pigment used as component a), of a water-soluble polyisocyanate addition product, are highly useful as printing inks for inkjet printing (Abstract). Kijlstra et al. also disclose that carbon blacks from the group of furnace or gas blacks can be used as the pigment (column 7, line 35-37) and the component c) of the pigment preparation of their invention acts as a

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dispersant (column 2, line 18-19). Kijlstra et al. further disclose that the pigment preparations can additionally contain preservatives (column 8, line 57-58) which is believed to meet applicant's limitations of biocide described in Claims 1, 12 and 15.

As to the limitations of zeta potential required by Claims 1, 4, 12 and 15, as discussed above, the pigment preparations prepared by Kijlstra et al. is substantially identical to the claimed gas black suspension. Therefore, it is the examiner's position to believe that the prior art composition must inherently possess the same zeta potential. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to the applicant to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

As to the limitation of the surface tension required by Claims 1, 5, 12 and 15, Kijlstra et al. disclose, in their working examples, the surface tension to be greater than 25 mN/m (column 13, Table 2) which covers the claimed surface tension of greater than 50 mN/m required by Claims 1, 12 and 15, and 60 mN/m required by Claim 5.

As to the limitations of the average particle size required by Claims 1, 6, 12 and 15, Kijlstra et al. disclose, in the working examples, that the average particle sizes are smaller than 0.2 μm (200 nm) (column 13, Table 1 and 2) which covers the claimed average particle size of smaller than 200 nm required by Claims 1, 12 and 15 and smaller than 100 nm required by Claim 6.

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As to Claim 7, Kijlstra et al. disclose, in their working examples, the pH of the pigment preparations to be in a range of 5.1 to 8 (column 2, Table 1 and 2).

As to Claims 8 and 9, Kijlstra et al. teach that carbon blacks from the group of furnace or gas blacks can be used as the pigment (column 7, line 35-37) and the pigments used preferably have an average particle size of 0.005 to 5 μm (5 to 5000 nm), especially 0.005 to 1 μm (5 to 1000 nm) (column 7, line 18-19). Kijlstra et al. do not disclose the DBP of the pigment in ml/100g. However, since the pigments used by Kijlstra et al. is substantially similar to claimed pigment, it is the examiner's position to believe that the prior art pigment must inherently possess the same DBP (ml/). Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to the applicant to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

As to Claim 10, the prior art to Kijlstra et al. discloses, in one of their working examples, that 0.1 part of a preservative is used (column 12, line 6) which is within the claimed range of 0.01 to 1 wt%.

As to Claim 11, Kijlstra et al. disclose that polyisocyanate addition product, acting as a dispersant, is used in an amount of about 20% by weight (column 12, Table 1) which is within the claimed range of 1 to 50wt%.

As to Claims 18 and 19, Kijlstra et al. do not include and other auxiliary agents including wetting agents in their pigment preparations (column 14, claim 1).

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As to Claims 20-25, the prior art to Kijlstra et al. further relates the production of the novel pigment preparations for inkjet printing, which is characterized in that at least one pigment and the dispersant of component c) and optionally further additives are homogenized and wet-comminuted using ball mills, high pressure homogenizer or jet disperser. The limitations of the instant claims 20-25 are obvious over Kijlstra et al.'s disclosure, see the description in column 9, line 29-67 and column 10, line 1-24.

In sum, all the limitations of Claims 1, 4-12, 15, and 18-25 are fully met by the prior art to Kijlstra et al.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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6. Claims 2-3, 13-14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kijlstra et al. (US Pat. 5,969,002) in view of Yamaguchi et al. (US Pat. 6,794,473).

The prior art to Kijlstra et al. is adequately presented in paragraph 3 above and is incorporated herein by reference. The difference between the prior art and the present invention is that Kijlstra et al. do not use styrene-acrylic acid copolymer in their pigment preparations as a dispersant. The prior art to Yamaguchi et al. teaches an acrylic acid (salt) polymer having excellent dispersibility and sufficient water solubility, and accordingly can favorably be used, for example, as pigment dispersants, etc. (column 7, line 66-67 and column 8, line 1-4). Yamaguchi et al. further disclose other monomers copolymerizable with the acrylic acid (salt) which can be used jointly with the acrylic acid (salt) including styrene (column 4, line 32-53) as required by Claims 2, 13 and 16. Moreover, Yamaguchi et al. teach that the carboxyl group portion of the acrylic acid (salt) polymer may be in any form of an acid form, a partial salt form, a perfect salt form, and their mixture form and examples of the salt include: salt of alkaline metals, such as sodium, etc. (column 3, line 14-19) as required by Claims 3, 14 and 17. Courts have held that the selection of a known material, which is based upon its suitability for the intended use, is within the ambit of one of ordinary skill in the art. See *In re Leshin*, 125 USPQ 416 (CCPA 1960) (see MPEP § 2144.07). Hence, as disclosed by Yamaguchi et al., a person of ordinary skill in the art would have recognized that suitability of utilizing the acrylic acid (salt) polymer in a pigment dispersion as a dispersant. Furthermore,

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as evidenced by Yamaguchi et al., a person of ordinary skill in the art would accordingly have had a reasonable expectation of success of utilizing styrene-acrylic acid copolymer as a pigment dispersion to take the advantages of its excellent dispersibility and sufficient water solubility in making a pigment preparation. The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to use styrene-acrylic acid copolymer, as taught by Yamaguchi et al., in Kijlstra et als' pigment preparation, to arrive Claims 3, 14 and 17.

Priority

7. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on July 31, 2002. It is noted, however, that applicant has not filed a certified copy of the 10235027.2 application as required by 35 U.S.C. 119(b).

Conclusion

8. The prior art made of record but not relied upon is considered pertinent to applicant's disclosure. The following references have been cited to show the state of the art with respect to the study of carbon black suspension.

US Patent 6,171,382 to Stubbe et al.

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US Patent 6,231,655 to Marritt

US Pub. No. 2004/0123773 to Butler et al.


US Patent 5,635,552 to Endo et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mei Q. Huang whose telephone number is (571) 272-3549. The examiner can normally be reached on 8am - 4pm, Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mei Q. Huang
Examiner
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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

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January 24, 2005